

Application No. 10/008,945
Amendment dated: October 26, 2005
Reply to Office Action of: July 27, 2005

MTS-3285US

Remarks/Arguments

The Examiner is thanked for the courtesy of the telephone interview conducted on October 12, 2005. During the interview, claims 1 and 6 were discussed.

Status of Claims

Claims 1-2 and 4-19 are pending. Claims 1-2 and 4-9 stand rejected, while claims 10-18 are withdrawn from consideration.

Claim 19

Claim 19 was added by amendment mailed on May 2, 2005. In the July 27, 2005 Office Action, the Examiner failed to note that claim 19 was presently pending. In a telephone call to the Examiner to question the status of claim 19, the Examiner realized that he did not notice the addition of claim 19, but upon review of the substance of claim 19, believed it to be obvious under 35 U.S.C. §103(a) by the disclosure of the Japanese Patent Publication 10-340727. Claim 19 depends from claim 1. Because the Examiner did not consider claim 19, the finality of the rejection should be withdrawn.

Rejection under 35 U.S.C. §102 (b)

Claim 1 is rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent Publication 10-340727 (hereafter referred to as JP '727). In the Office Action, the Examiner stated that JP '727 discloses a method of forming an electrode comprising:

providing a current collector;

providing a paste (5) to both sides of the current collector with dies;

drying (dessicating) the applied paste [0011]; and

rolling (pressing) the dried paste [0011].

Applicants respectfully traverse this conclusion in light of the current amendments to claim 1. Claim 1, as amended, recites, *inter alia*, a method of producing electrodes for a battery comprising the steps of: processing a metal foil to include a plurality of concavities and convexities, the processing forming at least one concavity and an adjacent convexity, adjacent to the at least one concavity, having an immediate drop after the at least one convexity to the adjacent concavity, forming a slit gap in a direction generally perpendicular to a plane of the metal foil therebetween, thereby forming a current collector having a thickness larger than a thickness of the unprocessed metal foil; applying an active material layer on both sides of the current collector using a pair of dies; drying the active material layer; and pressing the active material layer.

The foil starts as a generally flat, planar sheet, with a series of parallel slits formed in the sheet and separated by a distance. The sheet is deformed between the slits so that a first portion of the sheet between one pair of parallel slits forms a concavity and a second portion of the sheet between one of the pair of parallel slits and an adjacent other parallel slit forms a convexity. In this manner, a slit gap that extends generally perpendicular to the plane of the metal foil, with an immediate drop off between the concavity and the adjacent convexity, is formed.

The JP '727 reference, on the other hand, discloses a corrugated sheet with a plurality of holes formed in either a convex portion or a concave portion of the sheet. As can be seen in Fig. 12 of JP '727, there is no slit gap formed by an immediate drop off between a concavity and an adjacent convexity, as is claimed in amended claim 1.

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MTS-3285US

In order to anticipate a claim under 35 U.S.C. §102, the reference must teach every element of the claim. M.P.E.P. §2131. Furthermore, "the identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989) and M.P.E.P. §2131. Accordingly, since JP '727 fails to disclose or suggest the processing forming at least one concavity and an adjacent convexity, adjacent to the at least one concavity, having an immediate drop after the at least one convexity to the adjacent concavity, forming a slit gap in a direction generally perpendicular to a plane of the metal foil therebetween, as recited in claim 1, Applicants respectfully request reconsideration and allowance of claim 1.

Rejections under 35 U.S.C. §103 (a)

Claims 2 and 4-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP '727. Claims 2 and 4-5 each include all of the features of claim 1 from which they ultimately depend. Thus, claims 2 and 4-5 are also patentable over the cited art for at least the same reasons as set forth above for claim 1. Applicants respectfully request reconsideration and allowance of claims 2 and 4-5.

Independent claim 6, as amended, recites, *inter alia*, a method of producing electrodes for a battery, comprising the steps of: processing a metal foil to include a plurality of concavities and convexities, the processing forming at least one concavity and an adjacent convexity, adjacent to the at least one concavity, having an immediate drop after the at least one convexity to the adjacent concavity, forming a slit gap in a direction generally perpendicular to a plane of the metal foil therebetween, thereby forming a current collector having a thickness larger than a thickness of the unprocessed metal foil; and applying an active material on front and

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MTS-3285US

back sides of the current collector using a pair of dies such that the active material flows inside dies as well as between a tip of each die and the current collector at a shear rate of 500 (1/sec) or less.

JP '727 is discussed above. Similar to claim 1, claim 6 recites the feature of the processing forming at least one concavity and an adjacent convexity, adjacent to the at least one concavity, having an immediate drop after the at least one convexity to the adjacent concavity, forming a slit gap in a direction generally perpendicular to a plane of the metal foil therebetween, which is neither disclosed nor suggested by JP '727. Applicants respectfully submit that claim 6 is allowable for the same reasons as those set forth above for claim 1. Accordingly, Applicants respectfully request reconsideration and allowance of claim 6.

Claim 7 includes all of the features of claim 6 from which it depends. Thus, claim 7 is also patentable over the cited art for at least the same reasons as set forth above for claim 6. Applicants respectfully request reconsideration and allowance of claim 7.

Claims 8 and 9 include all of the features of claim 1 or claim 6 from which they depend. Thus, claims 8 and 9 are also patentable over the cited art for at least the same reasons as set forth above for claim 1 or claim 6. Applicants respectfully request reconsideration and allowance of claims 8 and 9.

Claim 19 includes all of the features of claim 1 from which it depends. Thus, claim 19 is also patentable over the cited art for at least the same reasons as set forth above for claim 1. Applicants respectfully request reconsideration and allowance of claim 19.

Application No. 10/008,945
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MTS-3285US

Conclusion

Accordingly, Applicants contend that the claims now pending and under consideration are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,

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